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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,735	12/15/2005	Kazumi Nii	0649-1178PUS1	3722

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EXAMINER

WILSON, MICHAEL H

ART UNIT	PAPER NUMBER
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1786

NOTIFICATION DATE	DELIVERY MODE
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10/28/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/560,735	Applicant(s) NII ET AL.	
	Examiner MICHAEL WILSON	Art Unit 1786	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2010 and 27 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20100817</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 August 2010 has been entered.

2. It is noted that applicants' amendment filed 28 July 2010 which was previously not entered for the reasons set forth in the Advisory Action mailed 17 August 2010 has now been entered. The following action is based on this now entered amendment.

Response to Amendment

1. This Office action is in response to Applicant's amendments filed 28 July and 27 August 2010, which amends claim 1 and cancels claims 3, 4, 11, and 12.

Claims 1 and 2 are pending.

2. The objection to claim 11 because of informalities is moot due to Applicants cancelling of the claim.

3. The rejection of claim 12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is moot due to Applicants cancelling of the claim.

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4. Applicants overcame the rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Kwong et al. (US 2002/0074935 A1) as evidenced by Tsukahara et al. (US 2006/0057427 A1) and Lamansky et al. (US 2002/0182441) by amending of the claims in the reply filed 27 August 2010.

5. The rejection of claims 3, 4, 11, and 12 under 35 U.S.C. 103(a) as being unpatentable over Kwong et al. (US 2002/0074935 A1) as evidenced by Tsukahara et al. (US 2006/0057427 A1) and Lamansky et al. (US 2002/0182441) and in view of Ise et al. (US 2002/0028329 A1) is moot due to Applicants cancelling of the claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwong et al. (US 2002/0074935 A1) in view of Ise et al. (US 2002/0028329 A1) as

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evidenced by Tsukahara et al.(US 2006/0057427 A1) and Satou (US 2008/0054799 A1).

Regarding claim 1, Kwong et al. disclose an organic electroluminescent device comprising a pair of electrodes with a light-emitting layer, hole transport layer, and electron transport layer between the electrodes ([0054]-[0056] and [0058]). The reference discloses the light-emitting layer comprising two host compounds, NPD and Alq₃, and a red phosphorescent dopant [0064]. The reference also discloses the red phosphorescent dopant BTPIr which is a red emitting ortho-metalated iridium dopant ([0018] and [0067]) which emits light at 620 nm (Satou, table 1, page 7). The reference teaches a hole injection layer (HIL) between the light-emitting layer and the anode [0064]. This HIL is reads on the hole transport layer (HTL) of the instant claims. The HIL of Kwong et al., formed using copper phthalocyanine (CuPc), is the only layer between the anode and the light-emitting layer in example 1 [0064] and therefore must inherently transport (and inject) holes from the anode into the light-emitting layer for the device to function. Transporting holes from the anode to the light-emitting layer is the basic function of a hole transport layer. Therefore the HIL of Kwong et al. performs the same function as the HTL of the present claims. However the reference does not explicitly disclose a compound of instant formula (H-II) as an electron transport material for the luminescent layer.

Ise et al. teach a similar organic electroluminescent device. The reference teaches heterocyclic compounds of instant formula (H-II) ([0021], [0059]-[0061], [0082]-[0084]) as suitable electron transport materials for the luminescent and electron

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transport layers ([0118] and [0195] table 1). The reference teaches that using compounds of instant formula (H-II) those layers gives a light-emitting device with high luminescent efficiency [0027].

It would be obvious to one of ordinary skill in the art at the time of the invention to use the electron transport compounds of Ise et al. as electron transport host material in the luminescent layer of Kwong et al. One of ordinary skill would reasonably expect such a combination to be suitable given that Ise et al. teach the compounds as suitable electron transport materials and that they may be used as host material for luminescent layers in phosphorescent organic electroluminescent devices (Ise: [0195] table 1). One of ordinary skill in the art would be motivated by a desire to make a light-emitting device with high luminescent efficiency.

While the reference does not disclose the ionization potentials of the materials the ionization potential of CuPc and NPD are 5.1 and 5.4 eV respectively as evidenced by Tsukahara et al. (table 1, page 13). The ionization potential of BTPIr is 5.4 eV as evidenced by Satou (table 1, page 7). Regarding the ionization potential of the electron transport host of the luminescent layer, while the reference does not explicitly disclose the ionization potential, the compounds of modified Kwong et al. (Ise et al.) are within the formula claimed by applicant as having a larger ionization potential. Therefore since the electron transport host compounds disclosed by modified Kwong et al. being within the formula claimed by applicant, the ionization potential of the compounds would be expected inherently to have the same properties as disclosed by applicant. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the

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article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. In *re Fitzgerald*, 205 USPQ 597, In *re Best*, 195 USPQ 430.

Regarding claim 2, modified Kwong et al. disclose all the claim limitations as set forth above. While the reference does not disclose the lowest triplet state energy level of BTPIr the complex emits light at the same wavelength as Ir(piq)₃ (complex I-1 in the instant specification page 57) (Satou, table 1, page 7). Both complexes are phosphorescent complexes with emit light from the lowest triplet excited state. Therefore given that Ir(piq)₃ (complex I-1 in the instant specification page 57) is taught by the instant specification to meet the triplet energy limitations of claim 2, absent objective evidence to the contrary, the lowest triplet excited state of BTPIr is expected to inherently also meet the claim limitation. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. In *re Fitzgerald*, 205 USPQ 597, In *re Best*, 195 USPQ 430.

Response to Arguments

9. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's declaration filed 28 July 2010 has been fully considered but is not persuasive.

It is well settled that evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains and that such evidence which is considerably narrower in scope than claimed subject matter is not sufficient to rebut a prima facie case of obviousness. *In re Dill*, 604 F.2d 1356, 1361, 202 USPQ805, 808 (CCPA 1979). Also see *In re Boesch*, 617 F.2d at 276, 205 USPQ at 219; *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) and *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). As rejected claim 1 and 2 are significantly broader than evidence which applicant cites as an example of unexpected results and which is limited to a comparison of compositions containing a specific non-metal-complex compound (H-1), the evidentiary showing is far from being commensurate in scope with the degree of patent protection sought. *In re Kulling*, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (fed. Cir. 1990) ("[O]bjective evidence of nonobviousness must be commensurate in scope with the claims." (quoting *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *In re Dill*, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979) ("The evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains.")).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571) 270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1786

MHW